UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,314	07/01/2004	Leonard Shaner	81100061	4313

28395 7590 02/03/2010

BROOKS KUSHMAN P.C./FGTL
1000 TOWN CENTER
22ND FLOOR
SOUTHFIELD, MI 48075-1238

EXAMINER	
SPISICH, GEORGE D	

ART UNIT	PAPER NUMBER
3616	

MAIL DATE	DELIVERY MODE
02/03/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/710,314	SHANER ET AL.	
	Examiner	Art Unit	
	GEORGE D. SPISICH	3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,17-19 and 24-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,17-19 and 24-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 25 is objected to because of the following informalities:

Claim 25 is missing a period at the end of the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6,10,11 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 is unclear. It is unclear what is intended to be claimed by the phrase "seamless away from edges". Examiner believes Applicant intends to claim that the panels of the airbag are not joined except for at the edges, to create a single chamber.

Claim 10 is unclear. In claim 10, line 2, there is claimed “a bottom edge" and since this has already been claimed in claim 8, line 9 (at least Examiner believes this is the same bottom edge), in claim 10, it should be referred to as "said bottom edge".

Claims 11 and 25 are unclear with respect to the phrase "all volume elements are in unrestricted fluid communication". Examiner believes Applicant is claiming that the first portion is one chamber with no divisions.

Claim 25 is unclear. In lines 2 and 3, there is claimed "a generally wedge shaped rear aspect.....", and since this has already been claimed in claim 24 (lines 2 and 3), it should be referred to as "said generally wedge shaped rear aspect.....".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (USPUB 2003/0168836).

Sato discloses a side airbag (1) apparatus (see at least Figs. 21) having side aspect including a triangular portion including a rounded corner (near ref. numeral 16) disposed toward a front of the airbag when the airbag is deployed. The side aspect being "at least partially" defined by a posterior edge, a top edge extending forward from the posterior edge, at least a potion of the bottom edge extending forward and upward toward the top edge, such that the side aspect substantially narrows from a back region to a front region. The triangular portion

is defined by the top edge, an axis intersecting the top edge and the bottom edge and the axis being perpendicular to the top edge. Examiner points that the "axis" may be positioned to intersect the top edge just above ref. num. 127 and intersect the bottom edge near ref. "Ph". It is proper to consider this "axis" at any location to define what is still reasonably considered a triangular "portion" of the side aspect, and the axis is still perpendicular to the top edge. A straight top edge is not required to define the axis as perpendicular to the top edge. Due to the broad language of "at least a portion" of the bottom edge, the term "generally triangular portion", and "at least partially define" the airbag of Sato includes a tapering portion (in side view, the forward half of the airbag) that has "a portion" of the bottom edge extending forward and upward from the posterior edge. It includes a triangular portion (not claimed to be the entire side of the airbag). Given this "sub" portion, there is a posterior and forward area of this sub-portion. Furthermore, the axis may be drawn at any portion of the airbag and at any angle so as to meet the claim limitation and define the triangular "portion". This portion is properly considered a "triangular portion including a rounded corner". Furthermore, Sato et al. discloses vent hole (22) that is common in an airbag to vent the bag during operation. This detail is shown in Fig. 18 and would be readily adaptable to any of the embodiment shown by Sato et al.

Sato shows an inflator cooperating with the airbag to supply gas thereto, thereby facilitating deployment of the airbag, and the airbag coupled to the side of the seat. Also, as shown in Fig. 21 the airbag is "seamless away from the edges" (claim 6) which Examiner interprets to be a single chamber. This enables

"all volume elements" in the first portion" to have unrestricted fluid communication.

The airbag shows what is well known in the airbag art, to provide a reinforced region (any area of the airbag such as the central portion/chamber) for providing additional strength to the airbag.

The portion of the bottom edge extending forward and upward is connected to the top edge by a radiused corner (near 16).

With respect to the relation to the fifth percentile female side impact anthropometric test dummy, it is Examiner's position that the placement of the dummy and the orientation of the limb(s) would be able to have the claimed orientation in a certain arrangement or in a particular seat position or collision response.

With respect to the positioning of the airbag and the bottom edge extending forward and upward, it is noted that the arrangement of the airbag and the relation with respect to being "forward and upward" is dependent on the position of the seat back. With a reclined seat back, it may appear that the bottom edge does not go forward, but with the seat back in a vertical position, the bottom edge would extend in Applicant's claimed direction.

Claims 2,18,24 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (USPUB2003/0168836) in view of Steffens Jr. et al. (USPN 5,439,248).

Sato et al. has been discussed in the prior rejection. However, the airbag of Sato et al. does not have a wedge shape rear aspect.

Steffens et al. (as shown in at least Fig. 6) shows a side airbag having a generally wedge shaped rear aspect narrowing from an upper region to a lower region. This shaped would provide more protection in the upper torso/upper arm region of an occupant. The positioning of the airbag of Steffens et al. being in the side door would still teach any side (torso) airbag of a similar shape, whether the side airbag is mounting to a side door or to the side of the seat.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the airbag of Sato et al. so as to provide a wider portion of the airbag towards the upper portion of the airbag and a tapering portion towards the lower portion (where impact with the occupant's torso not as harsh due to the mass and width of the upper torso) so as to provide a wedge-shaped rear aspect as taught by Steffens Jr. et al. so as to provide enhanced protection for an occupant seated adjacent the deployed airbag.

Claims 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. et al. (USPUB2003/0168836) in view of Kai et al. (USPN 7,108,278).

Sato et al. has been discussed in the prior rejection. However, the airbag of Sato et al. does not have a wedge shape top aspect.

Kai et al. (as shown in at least Fig. 6) shows a side airbag having a generally wedge shaped top aspect narrowing from a posterior region to a front

region. This shaped would provide more protection in the upper torso/upper arm region of an occupant.

It is well known in the airbag art to have various shapes for airbags that provide protection in a variety of vehicle locations and with respect to parts of a vehicle occupant's body as deemed necessary.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the airbag of Sato et al. so as to provide a wider portion of the airbag towards the posterior portion of the airbag and a tapering portion towards the front portion (where impact with the occupant's torso not as harsh due to mass and width of the upper torso) so as to provide a wedge-shaped top aspect as taught by Kai et al. so as to provide enhanced protection for an occupant seated adjacent the deployed airbag.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (USPUB2003/0168836) in view of Keshavaraj et al. (USPN 6,344,251).

Sato et al. has been discussed in a prior rejection. However, Sato et al. does not show the airbag comprising a polymeric material of at least 600 denier or the inflator configured to inflate the airbag to at least 25 pounds per square inch.

Although Examiner maintains that it is well known in the art to use a known fabric of desired strength and an inflator that provides adequate inflation

for occupant protection, Examiner is further relying on Keshavaraj et al. for this teaching.

Keshavaraj et al. (see col. 2, lines 45-67) discloses the use of a polymeric material having up to 840 denier and compatible with inflation of (col. 1, lines 50-52) pressures as high as 50 psi.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any known material and inflator characteristics in the airbag arrangement of Sato et al. such as one having the parameters and that is disclosed by Keshavaraj et al. since providing a strong airbag would be more durable and provide enhanced protection for the occupant seated beside the airbag.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (USPUB2003/0168836) in view of Harada et al. (USPN 6,543,803).

Sato et al. has been discussed in the prior rejection, however does not show a reinforced region having mounting holes adapted to couple with the inflator.

Harada et al. teaches the basic connection of a reinforced mounting portion having mounting holes for attachment to the inflator.

It would have been obvious to one of ordinary skill in the art to include a reinforced mounting portion of the airbag of Sato et al. and further having mounting holes as shown by Harada et al. so as to provide a strong and simple mounting arrangement for the bag to the inflator.

Claims 8,10,11 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (USPUB2003/0168836) in view of Steffens Jr. et al. (USPN 5,439,248) and further in view of Harada et al. (USPN 6,543,803).

Sato et al. has been discussed in the prior rejection. However, the airbag of Sato et al. does not have a wedge shape rear aspect and second portion being "generally rectangular" and contiguous with the first portion.

Steffens et al., also previously discussed, (as shown in at least Fig. 6) shows a side airbag having a generally wedge shaped rear aspect narrowing from an upper region to a lower region. This shaped would provide more protection in the upper torso/upper arm region of an occupant.

It is well known in the airbag art to have various shapes for airbags that provide protection in a variety of vehicle locations and with respect to parts of a vehicle occupant's body as deemed necessary.

Sato et al. does not show the rear part of the airbag that mounts to the inflator as being generally rectangular. Harada et al. teaches the basic connection of a generally rectangular rear/second portion of a side airbag, wherein the second portion has at least one mounting hole for attachment to the inflator. This rectangular portion would partially define the top edge and the bottom edge and the upper (top) and lower (bottom) edges of the generally rectangular portion are parallel and therefore, a portion of the bottom edge is parallel to (a portion) of the top edge. It is considered that any portions of an

airbag are contiguous with another, and does not exclude the portions from having a "transition portion" connecting the portions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the airbag of Sato et al. so as to provide a wider portion of the airbag towards the upper portion of the airbag and a tapering portion towards the lower portion (where impact with the occupant's torso not as harsh due to the mass and width of the upper torso) so as to provide a wedge-shaped rear aspect as taught by Steffens Jr. et al. so as to provide enhanced protection for an occupant seated adjacent the deployed airbag and to further include a generally rectangular second portion as shown by Harada et al. and is common in the airbag art which would be contiguous with the first portion (of Sato et al.) for mounting the rear of the airbag to the inflator.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (USPUB2003/0168836) in view of Steffens Jr.et al. (USPN 5,439,248) and Harada et al. (USPN 6,543,803) as applied to claims 8,10,11 and 25 above, and further in view of Kai et al. (USPN 7,108,278).

Sato et al. in view of Steffens Jr. et al. and Harada et al. have been discussed in a prior rejection. However, none of the references show a wedge shaped top aspect.

Kai et al. (as shown in at least Fig. 6) shows a side airbag having a generally wedge shaped top aspect narrowing from a posterior region to a front

region. This shaped would provide more protection in the upper torso/upper arm region of an occupant.

It is well known in the airbag art to have various shapes for airbags that provide protection in a variety of vehicle locations and with respect to parts of a vehicle occupant's body as deemed necessary.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the airbag of Sato et al. in view of Steffens Jr. et al. and Harada et al. to further have a tapered view from the top aspect, narrowing from a posterior region to a front region as taught by Kai et al. so as to provide enhanced protection for an occupant seated adjacent the deployed airbag.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (USPUB2003/0168836) in view of Steffens Jr.et al. (USPN 5,439,248) and Harada et al. (USPN 6,543,803) as applied to claims 8,10,11 and 25 above, and further in view of Keshavaraj et al. (USPN 6,344,251)

Sato et al. in view of Steffens Jr. et al. and Harada et al. has been discussed in a prior rejection. However, neither Sato et al. nor Steffens Jr. et al. or Harada et al. show the airbag comprising a polymeric material of at least 600 denier or the inflator configured to inflate the airbag to at least 25 pounds per square inch.

Although Examiner maintains that it is well known in the art to use a known fabric of desired strength and an inflator that provides adequate inflation

for occupant protection, Examiner is further relying on Keshavaraj et al. for this teaching.

Keshavaraj et al. (see col. 2, lines 45-67) discloses the use of a polymeric material having up to 840 denier and compatible with inflation of (col. 1, lines 50-52) pressures as high as 50 psi.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any known material and inflator characteristics in the airbag arrangement of Sato et al. in view of Steffens Jr. et al. and Harada et al. such as one having the parameters and that is disclosed by Keshavaraj et al. since providing a strong airbag would be more durable and provide enhanced protection for the occupant seated beside the airbag.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (USPUB2003/0168836) in view of Steffens Jr. et al. (USPN 5,439,248) as applied to claims 2,18,24 and 26-28 above, and further in view of Keshavaraj et al. (USPN 6,344,251).

Sato et al. in view of Steffens Jr. et al. has been discussed in a prior rejection. However, neither Sato et al. nor Steffens Jr. et al. or Harada et al. show the airbag comprising a polymeric material of at least 600 denier or the inflator configured to inflate the airbag to at least 25 pounds per square inch.

Although Examiner maintains that it is well known in the art to use a known fabric of desired strength and an inflator that provides adequate inflation

for occupant protection, Examiner is further relying on Keshavaraj et al. for this teaching.

Keshavaraj et al. (see col. 2, lines 45-67) discloses the use of a polymeric material having up to 840 denier and compatible with inflation of (col. 1, lines 50-52) pressures as high as 50 psi.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any known material and inflator characteristics in the airbag arrangement of Sato et al. in view of Steffens Jr. et al. such as one having the parameters and that is disclosed by Keshavaraj et al. since providing a strong airbag would be more durable and provide enhanced protection for the occupant seated beside the airbag.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (USPUB2003/0168836) in view of Steffens Jr. et al. (USPN 5,439,248) as applied to claims 2,18,24 and 26-28 above, and further in view of Kai et al. (USPN 7,108,278).

Sato et al. in view of Steffens Jr. et al. has been discussed in a prior rejection. However, neither Sato et al. nor Steffens Jr. et al. show the airbag have a wedge shaped top aspect.

Kai et al. (as shown in at least Fig. 6) shows a side airbag having a generally wedge shaped top aspect narrowing from a posterior region to a front region. This shaped would provide more protection in the upper torso/upper arm region of an occupant.

It is well known in the airbag art to have various shapes for airbags that provide protection in a variety of vehicle locations and with respect to parts of a vehicle occupant's body as deemed necessary.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the airbag of Sato et al. in view of Steffens Jr. et al. to further have a tapered view from the top aspect, narrowing from a posterior region to a front region as taught by Kai et al. so as to provide enhanced protection for an occupant seated adjacent the deployed airbag.

Response to Arguments

Applicant's arguments filed October 19, 2009 have been fully considered but they are not persuasive.

With respect to Applicant's argument that the applied reference to not read on the relation to the 5th percentile female test dummy, Examiner disagrees and maintains that based on seat position, dummy position and vehicle/collision parameters it would be reasonable for the dummy to be in the claimed orientation with respect to the airbag. Also, the relation of the bottom edge with respect to extending forward and upward, this would depend on the degree of tilt of the seat back and it would possibly to orient the seat back such that the airbag bottom edge is in the claimed direction.

Since Applicant has stated that the invention is a generally triangular portion with a rounded corner (which is no longer a triangle), it is Examiner's position that a slightly curve top edge (from where the arbitrary axis is positioned

to the forward edge) and a slightly rounded bottom corner, it is still reasonably considered a generally triangular portion. Examiner makes the next statement to explain his position and does not intend to imply that amended language would be allowable and should new language be presented in the future, may result in a 112.1st new matter rejection: The current claim language does not require that the airbag is only made up of a first and a second portion. For instance, it is not required that the bottom edge only extends from the rear portion of the bottom edge in an upward and forward direction. The airbag of Sato et al. may have a bottom edge that "dips" to a lower point below the rearward portion of the bottom edge, but still reads on the claim language since it also extends upward and forward from the rear portion of the bottom edge. This interpretation is the basis of Examiner's rejections. Essentially to say that an edge extends forward and upward, does not prevent an edge that extends downward first and then forward and upward (as Sato et al. does) from still reading on the claimed details.

Again, claiming that the side aspect includes a "generally" triangular "portion", does not require that the airbag be exactly triangular in shape (having straight line bottom, top and posterior edge), only that a portion of the airbag be generally triangular, and when combined with the arbitrary axis that is used to define the triangular portion and that the axis can be drawn at any position (and still perpendicular to the top edge), it is reasonable to draw an axis in the airbag of Sato et al. to define what is reasonably considered and triangular portion and meeting Applicant's claimed limitations. Examiner's position is also, that a line/axis can be properly considered perpendicular to a slightly curved edge/line.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sinnhuber et al. (USPN 5,556,128), Brown (USPN 5,913,536).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GEORGE D. SPISICH whose telephone number is (571) 272-6676. The examiner can normally be reached on Monday-Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul N. Dickson can be reached on (571) 272-7742. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GDS/
Examiner, Art Unit 3616
January 29, 2010

/Paul N. Dickson/
Supervisory Patent Examiner, Art Unit 3616